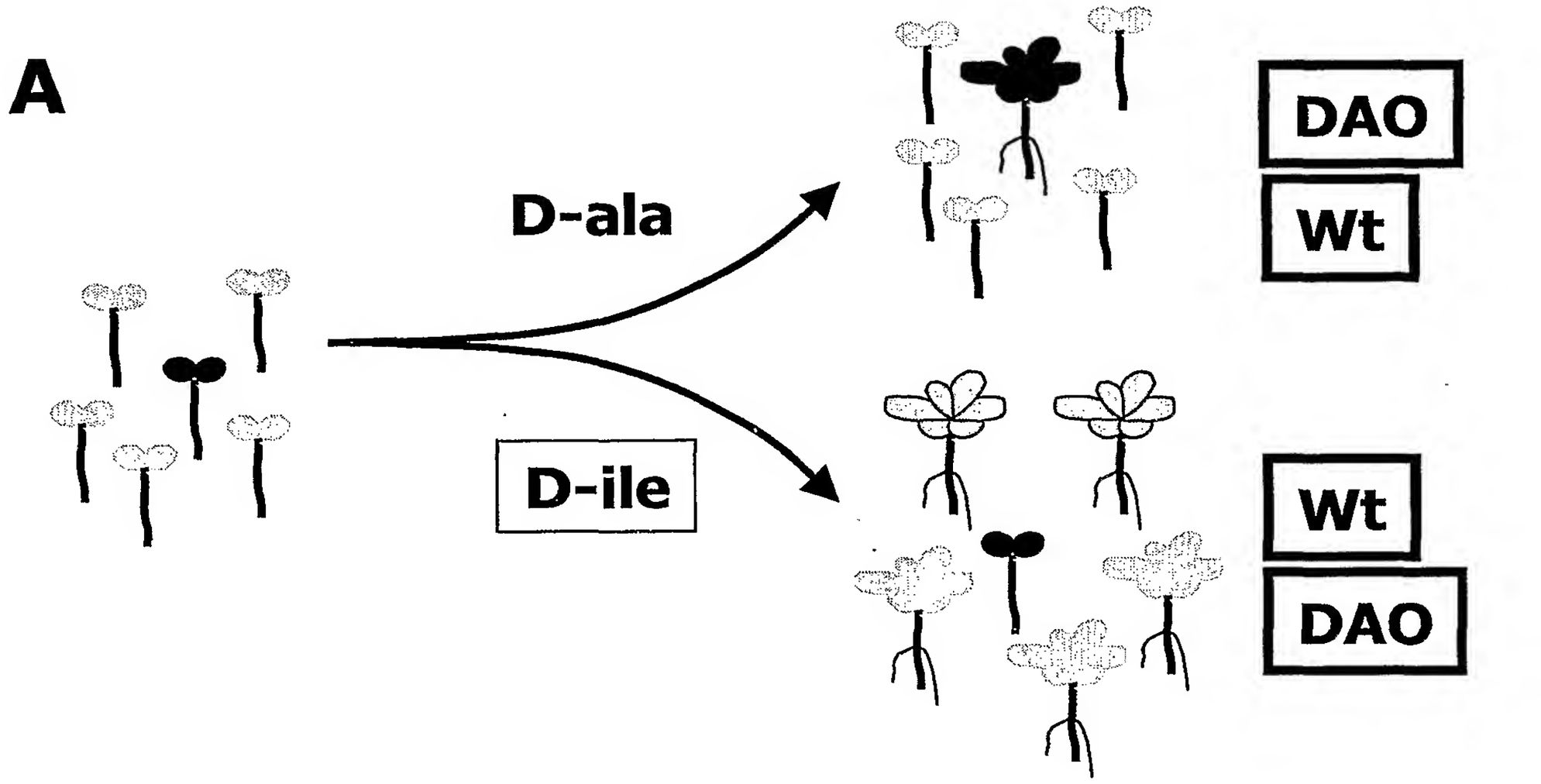

A
D-ala
D-ile
DAO
Wt
Wt
DAO
B
D-ala
transformation
D-ile
marker excision
non-transgenic
DAO + GOI
GOI

Fig. 1

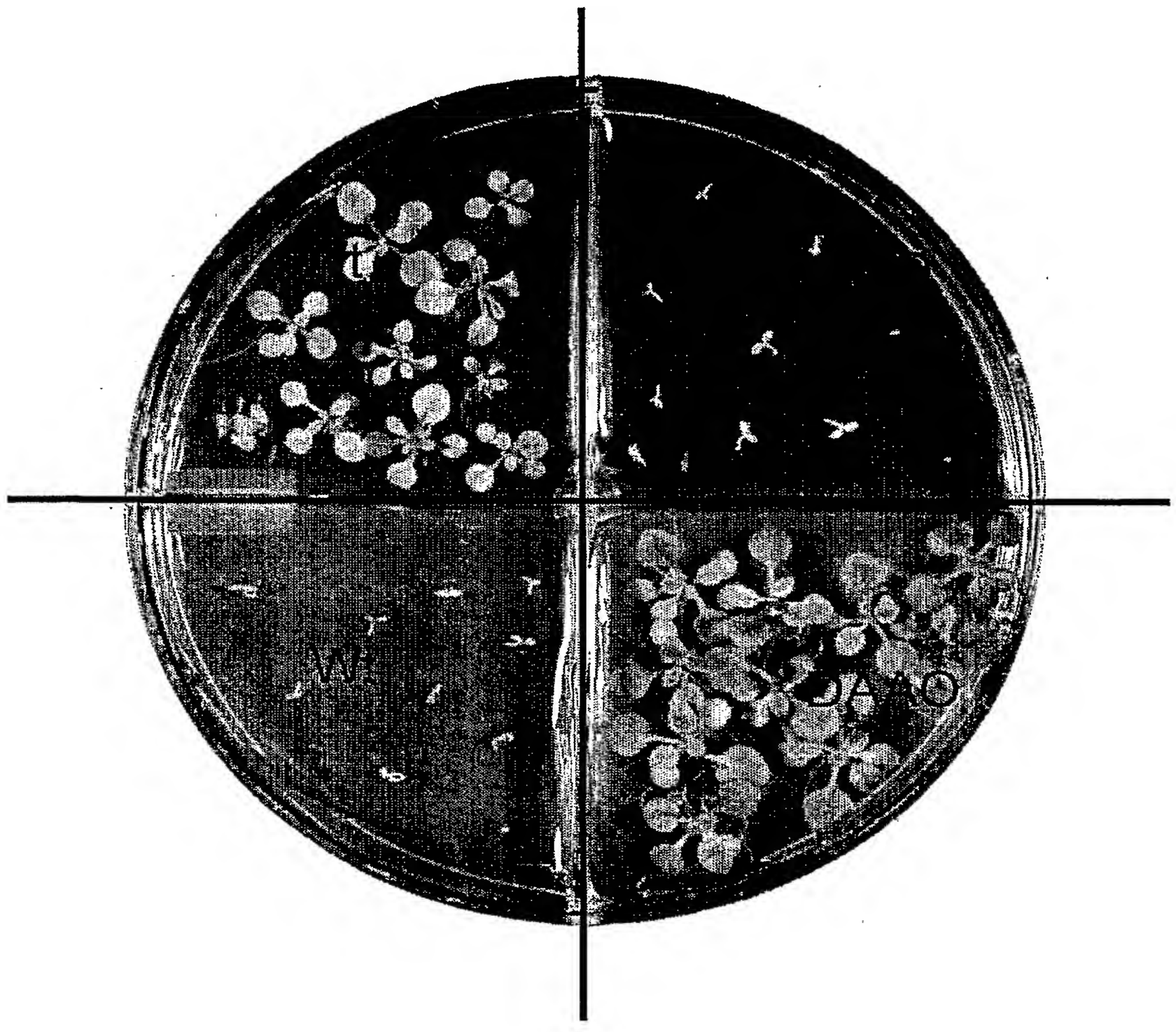


Fig. 2

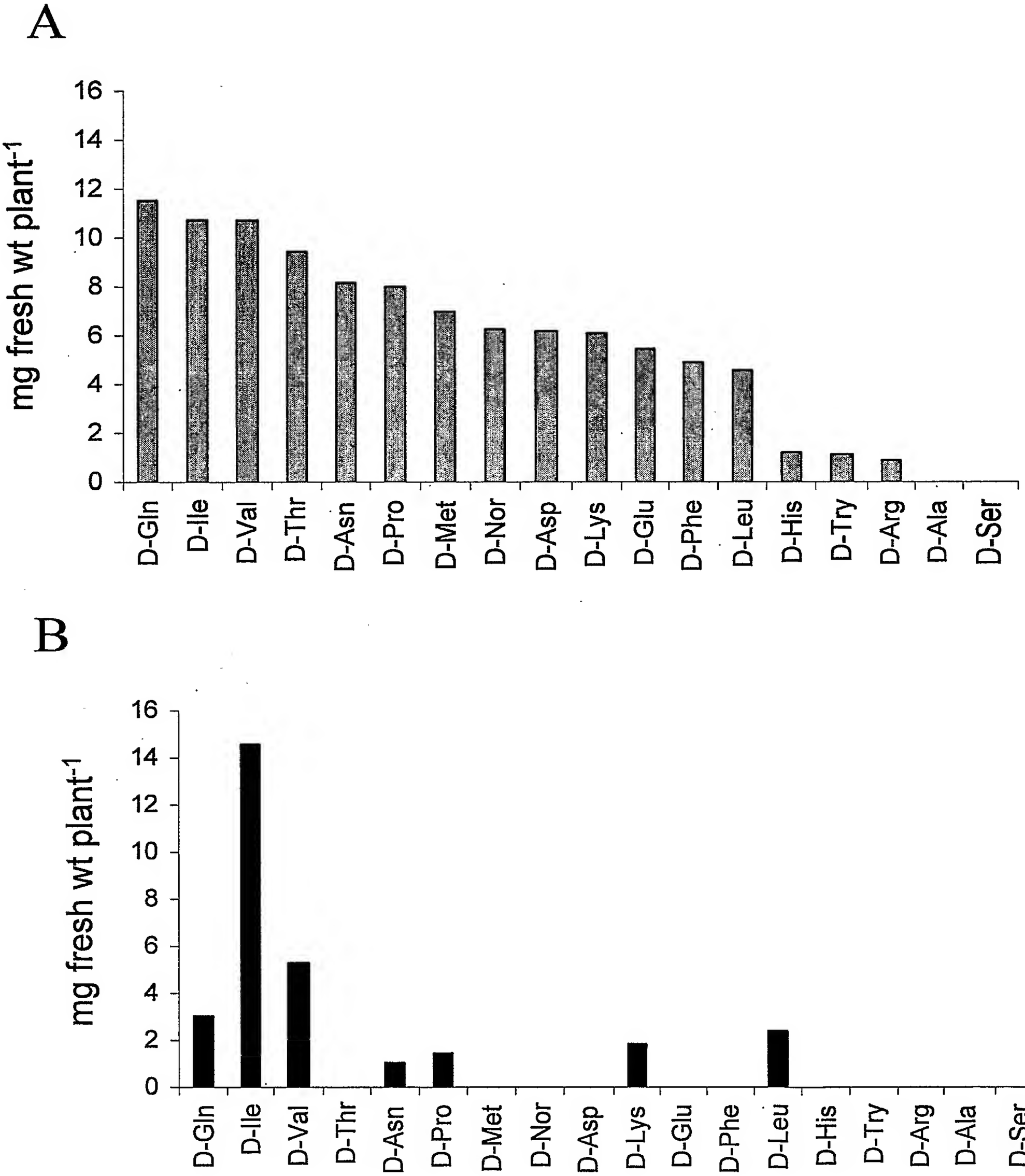

A
mg fresh wt plant-1
0
2
4
6
8
10
12
14
16
D-Gln
D-Ile
D-Val
D-Thr
D-Asn
D-Pro
D-Met
D-Nor
D-Asp
D-Lys
D-Glu
D-Phe
D-Leu
D-His
D-Try
D-Arg
D-Ala
D-Ser
B
mg fresh wt plant-1
0
2
4
6
8
10
12
14
16
D-Gln
D-Ile
D-Val
D-Thr
D-Asn
D-Pro
D-Met
D-Nor
D-Asp
D-Lys
D-Glu
D-Phe
D-Leu
D-His
D-Try
D-Arg
D-Ala
D-Ser

Fig. 3

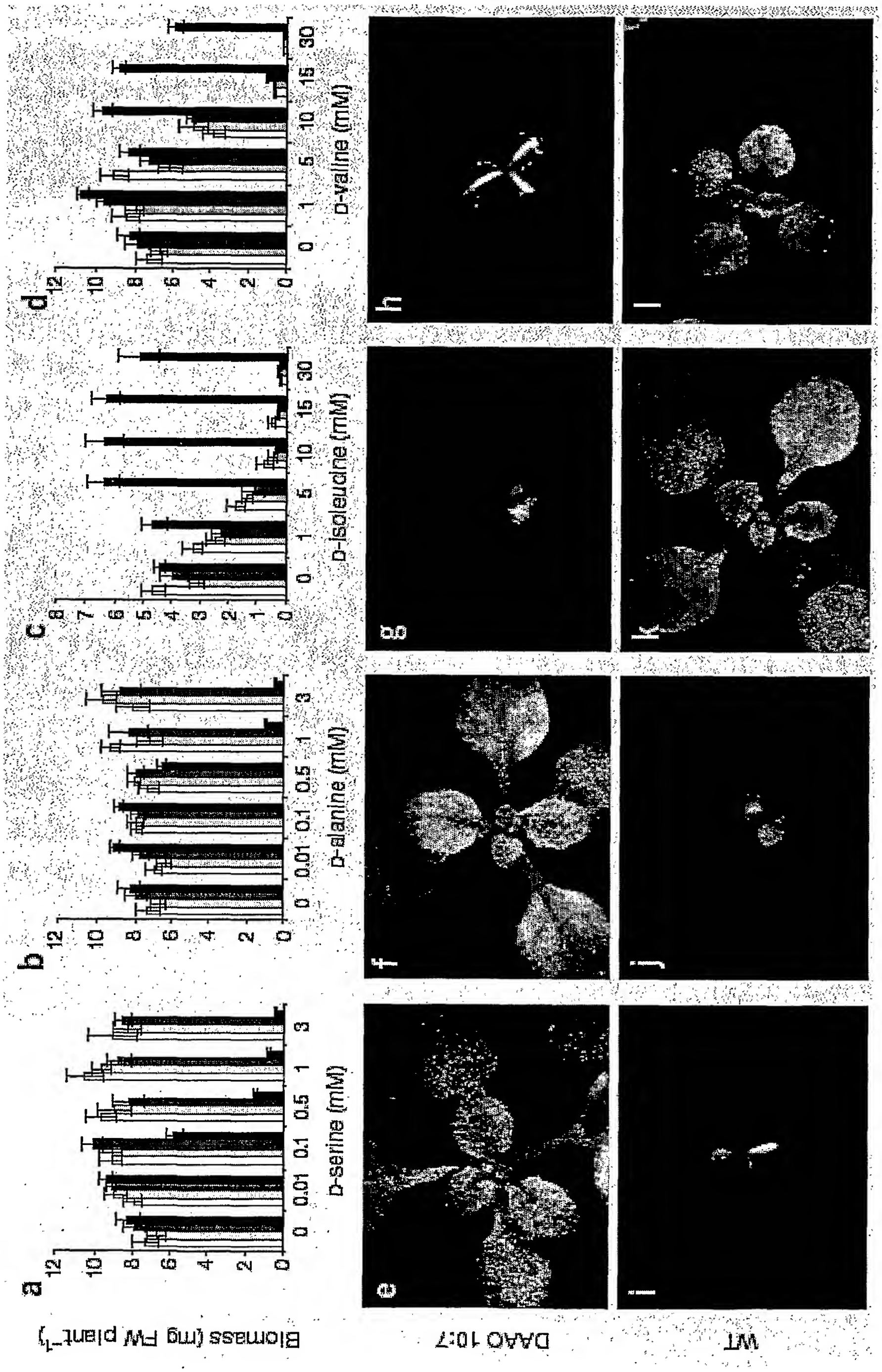

a
b
c
d
D-alanine (mM)
D-isoleucine (mM)
D-valine (mM)
D-serine (mM)
Biomass (mg FW plant⁻¹)
WT
DAAO 10:7

Fig. 4

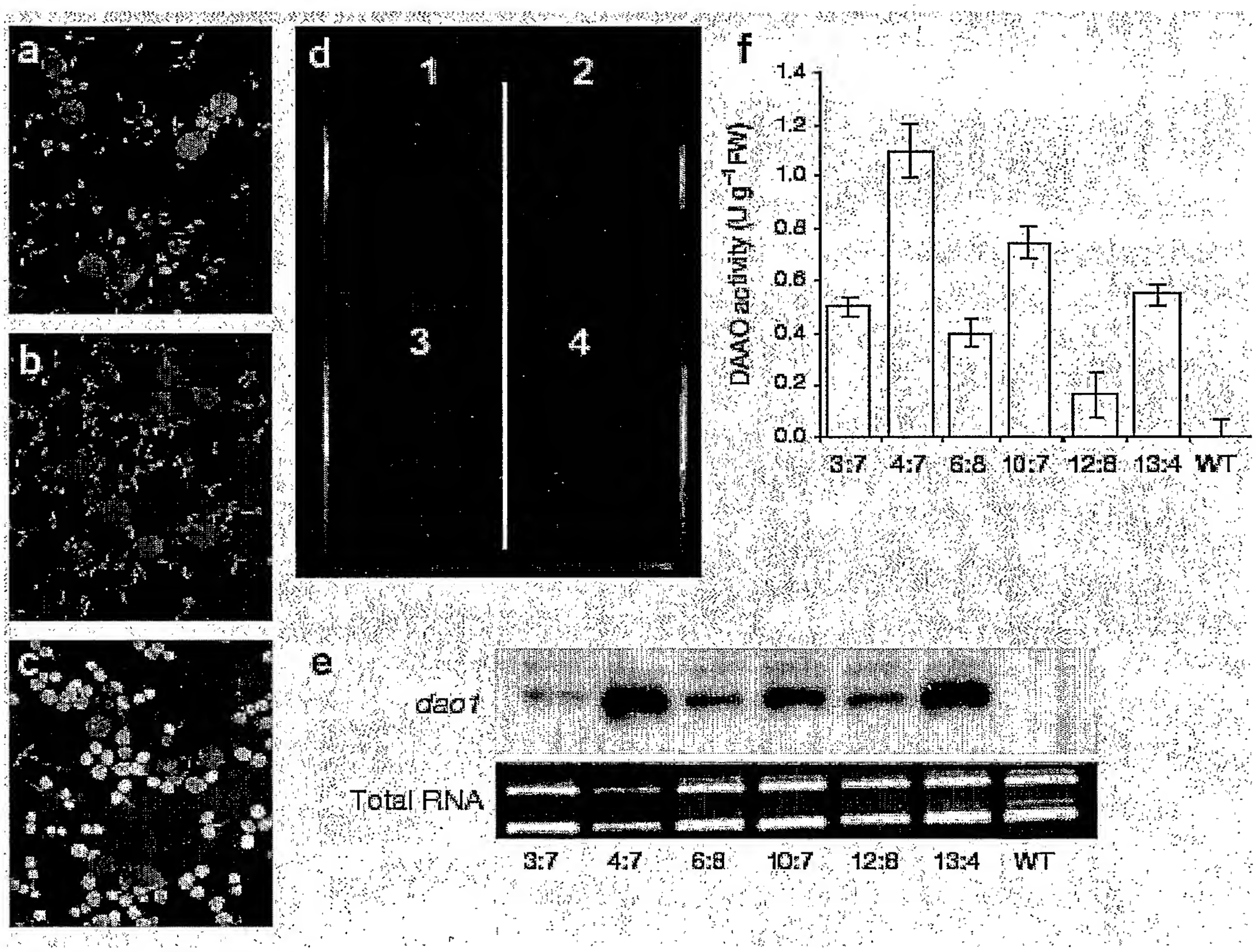

a
b
c
d
1
2
3
4
e
dao1
Total RNA
3:7
4:7
6:8
10:7
12:8
13:4
WT
f
DAAO activity (U mg-1FW)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
3:7
4:7
6:8
10:7
12:8
13:4
WT

Fig. 5

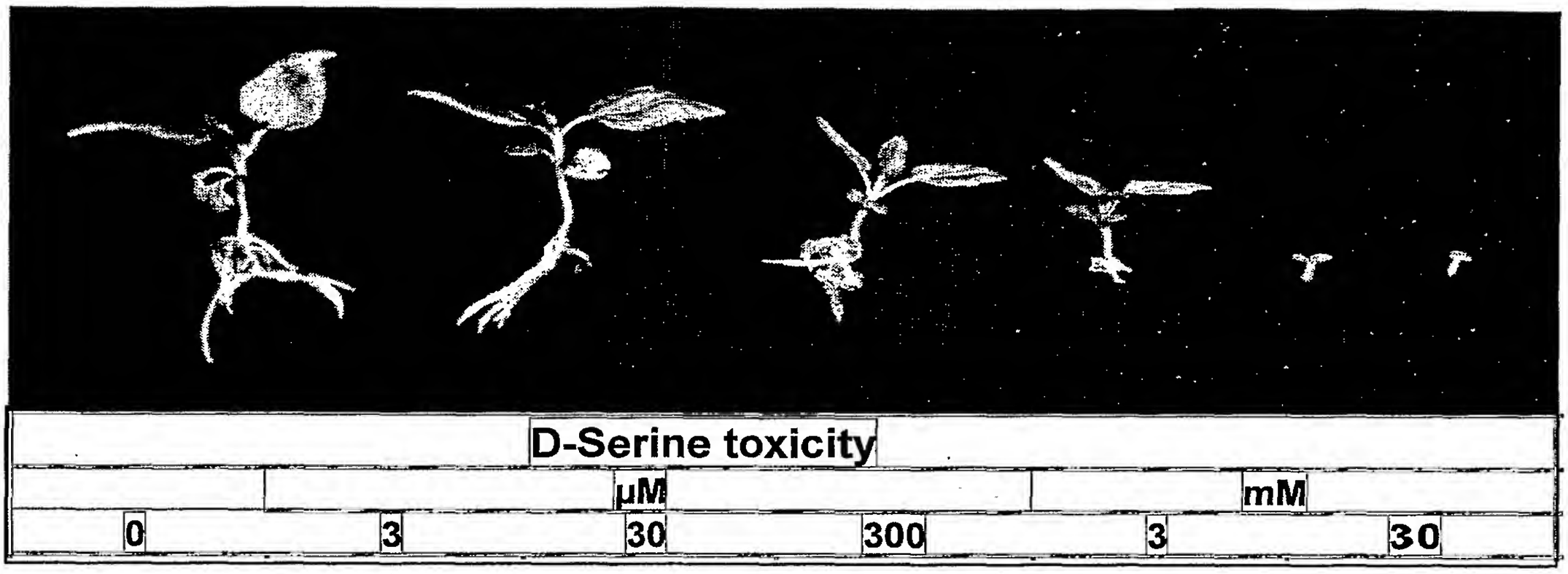

D-Serine toxicity
µM
mM
0
3
30
300
3
30
D-Serine toxicity
uM
mM
0
3
30
300
3
30
D-Serine toxicity
uM
mM
0
3
30
300
3
30

Fig. 6

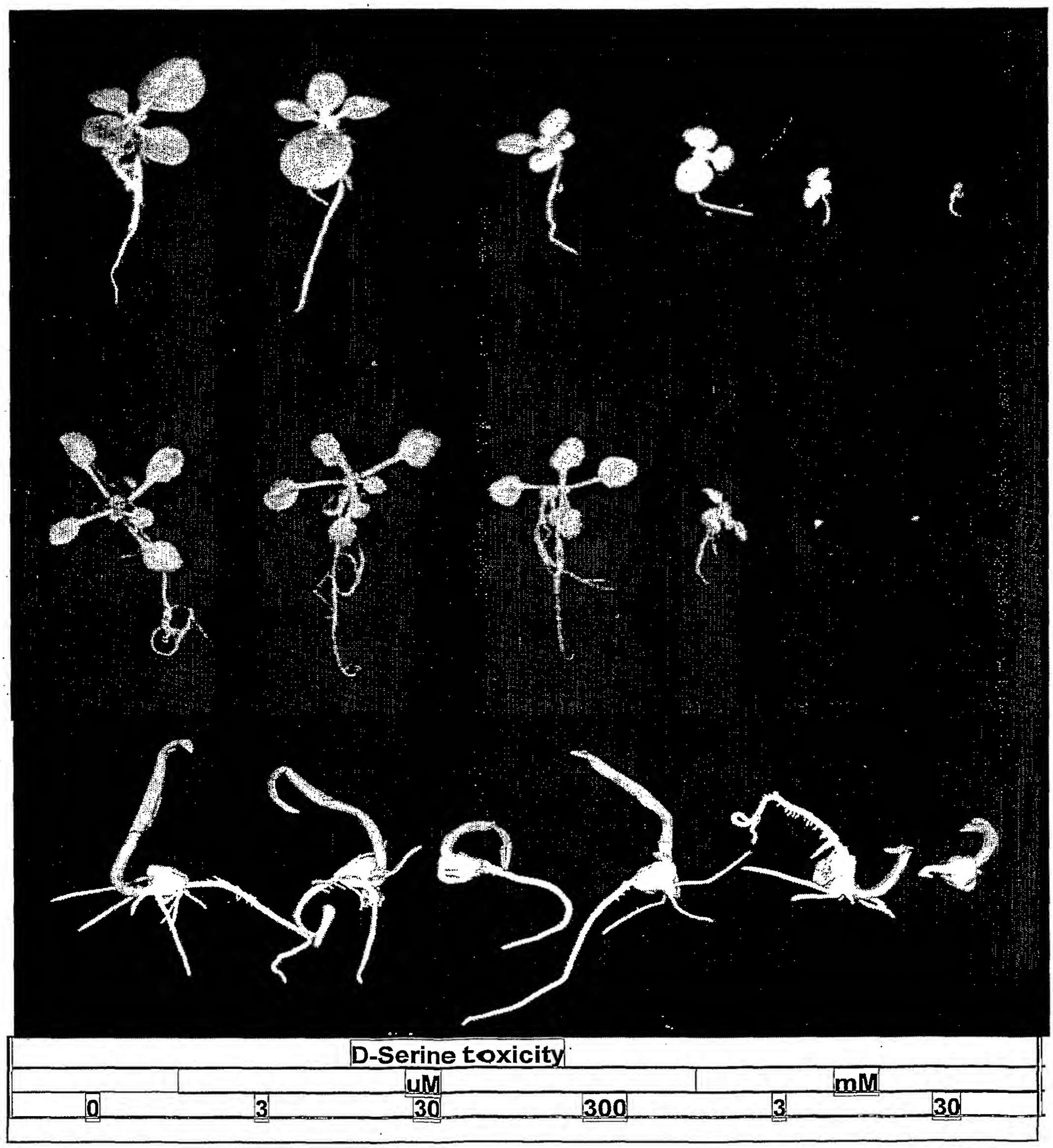
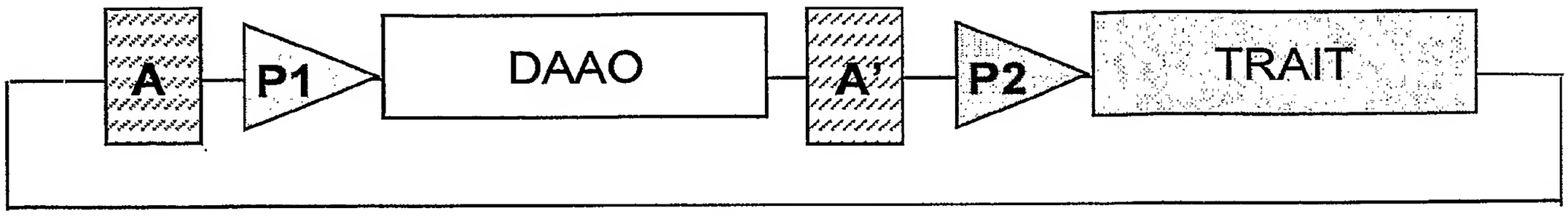


Fig. 7



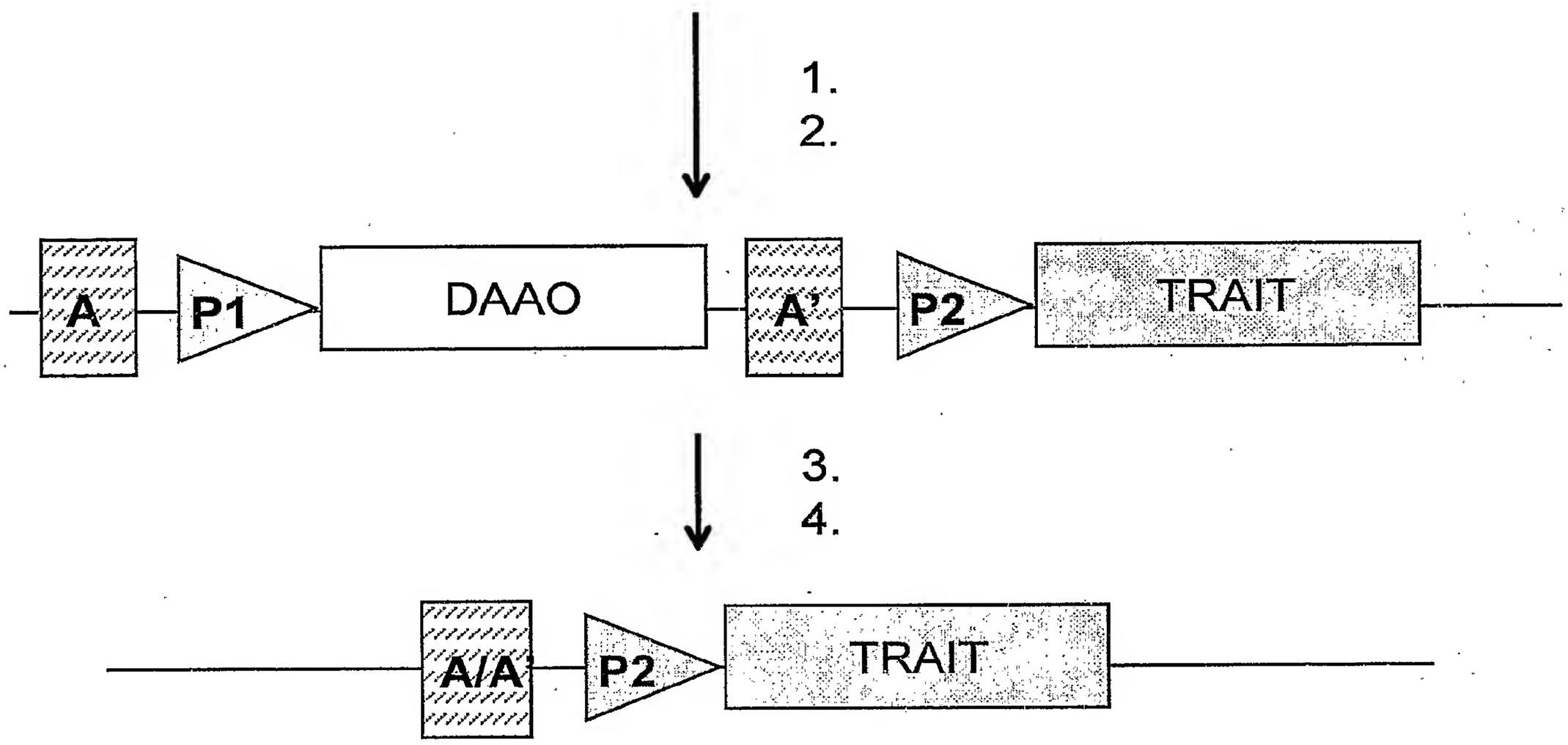


Fig. 8

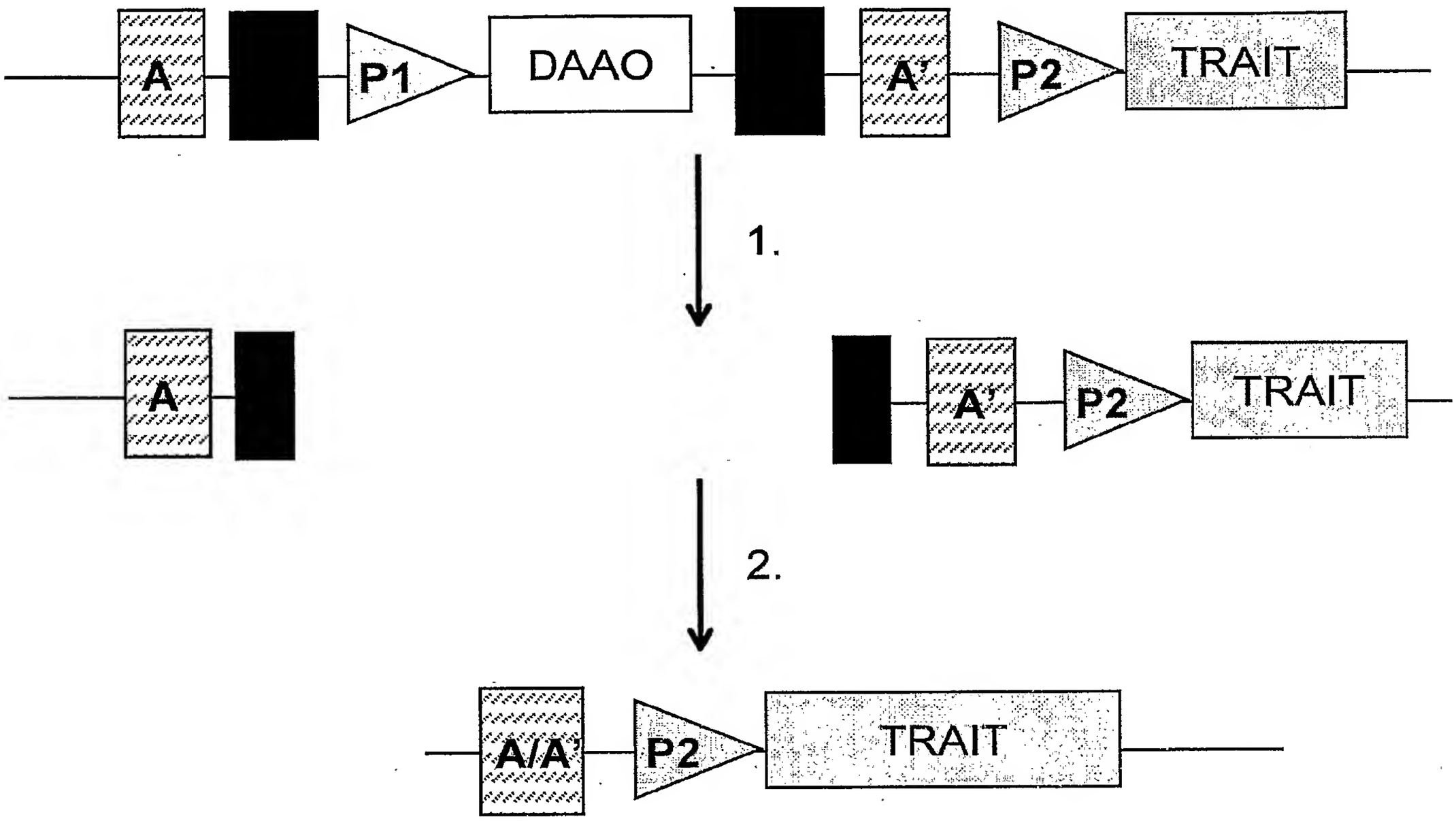


Fig. 9

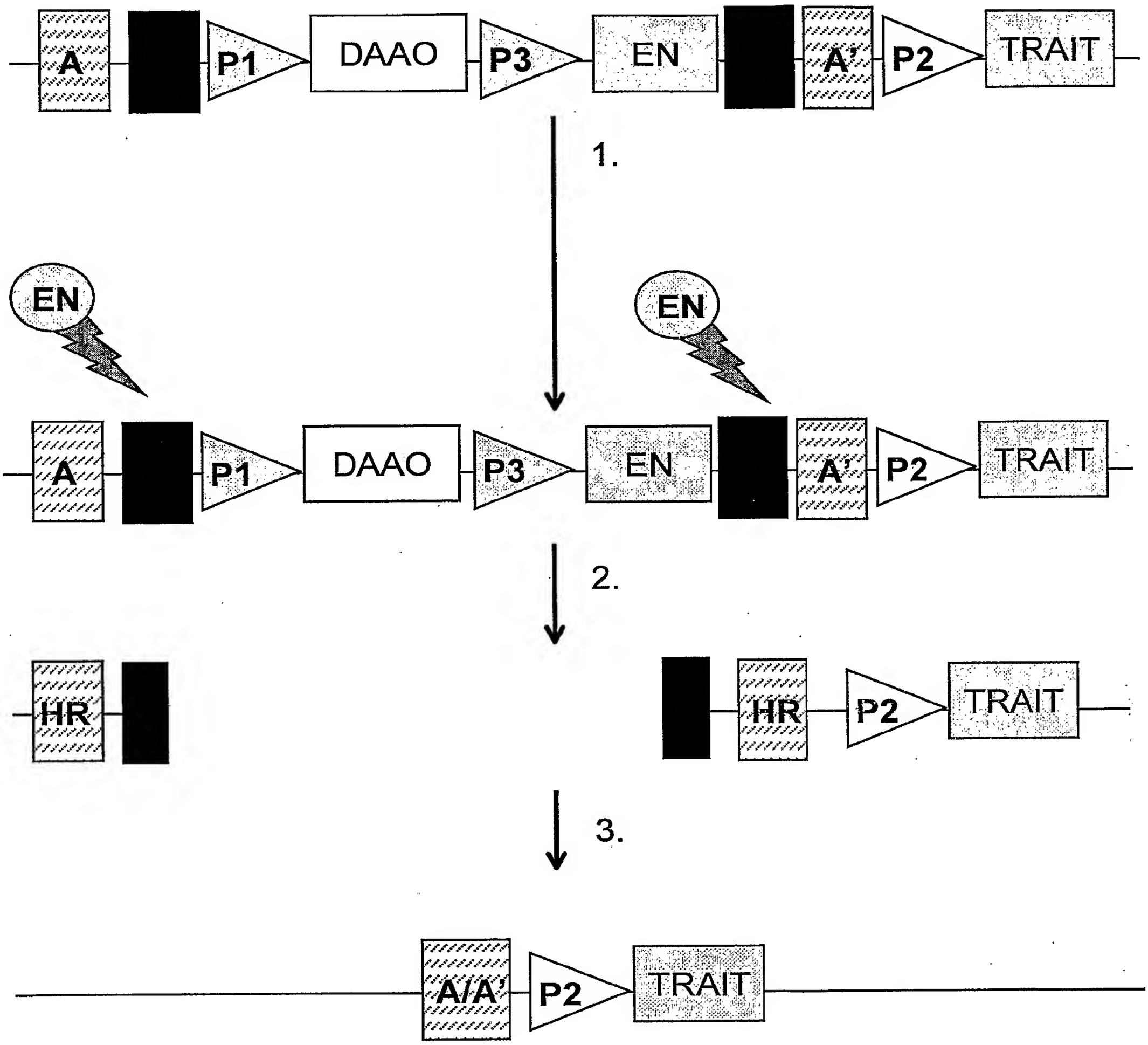


Fig. 10

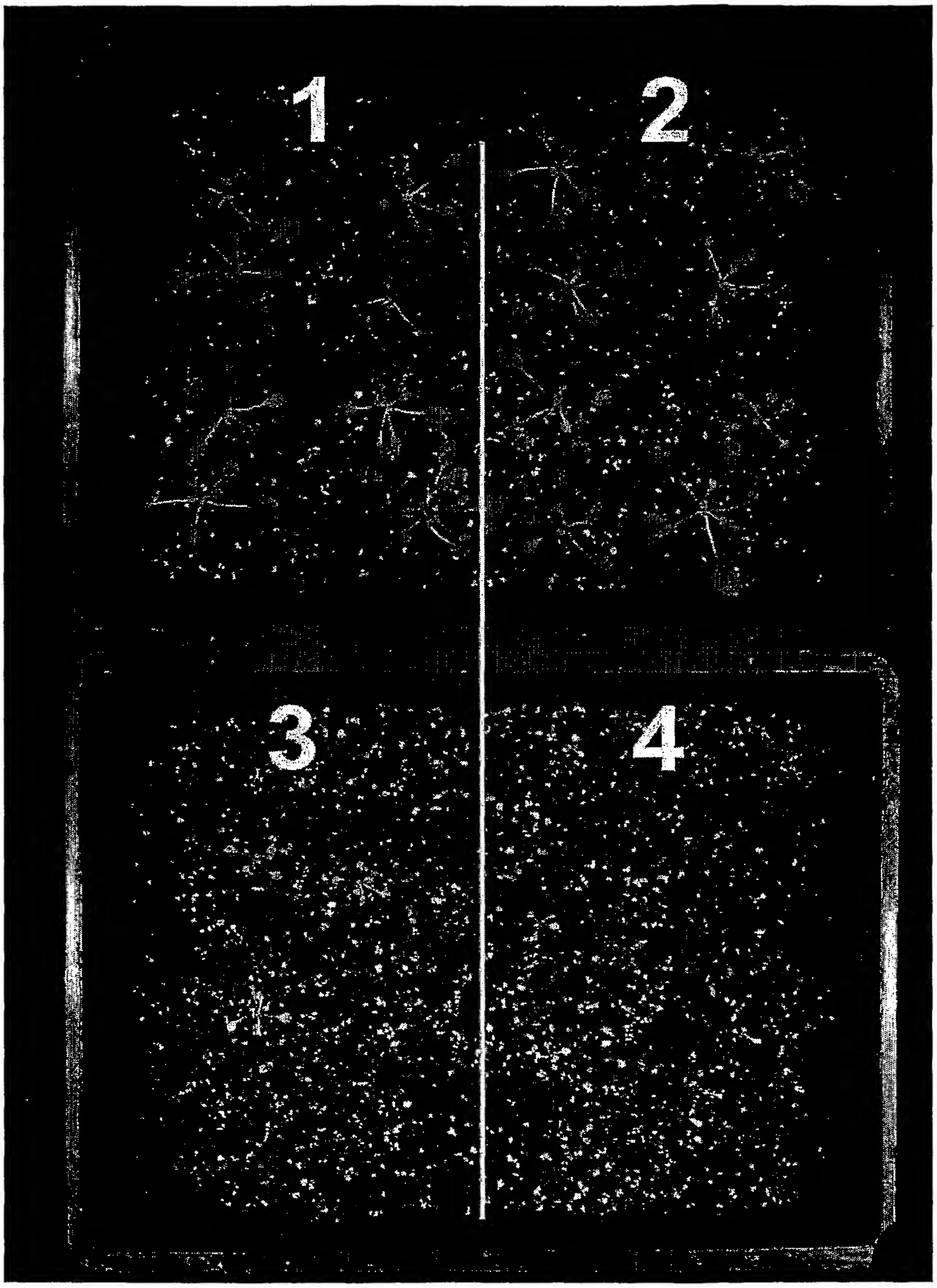


Fig. 11

```
OXDA_CAEEL/303-321      VVHHYGhGSnGftlgwGtA
OXDA_FUSSO/325-343      IVHNYGhSGwGyqgsyGcA
OXDA_HUMAN/305-323      VIHNYGhGGyGltihwGcA
OXDA_MOUSE/304-322      VIHNYGhGGyGltihwGcA
OXDA_PIG/305-323        VIHNYGhGGyGltihwGcA
OXDA_RABIT/305-323      VIHNYGhGGyGltihwGcA
OXDA_RAT/304-322        VIHNYGhGGyGltihwGcA
OXDA_RHOTO/327-345      LVHAYGfSSaGyqqswGaA
OXDA_TRIVR/322-340      VVHNYGaAGaGyqssyGmA
OXDD_BOVIN/300-318      VVHHYGhGSgGiamhwGtA
OXDD_HUMAN/300-318      VVHHYGhGSgGisvhwGtA
```

Fig. 12

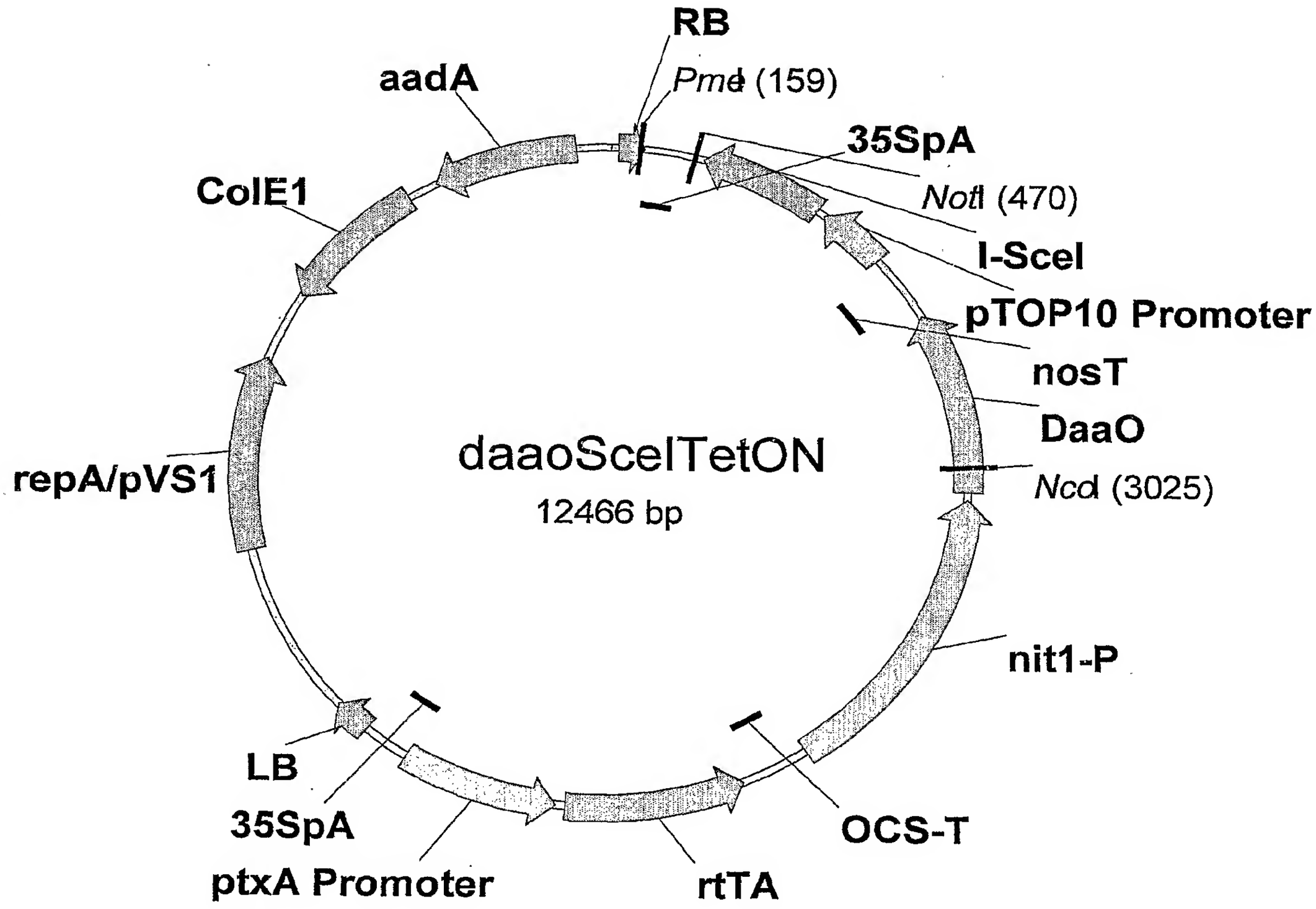

RB
aadA
PmeI (159)
35SpA
ColE1
NotI (470)
I-SceI
pTOP10 Promoter
nosT
repA/pVS1
daaoSceITetON
12466 bp
DaaO
NcoI (3025)
nit1-P
LB
35SpA
ptxA Promoter
rtTA
OCS-T

Fig. 13

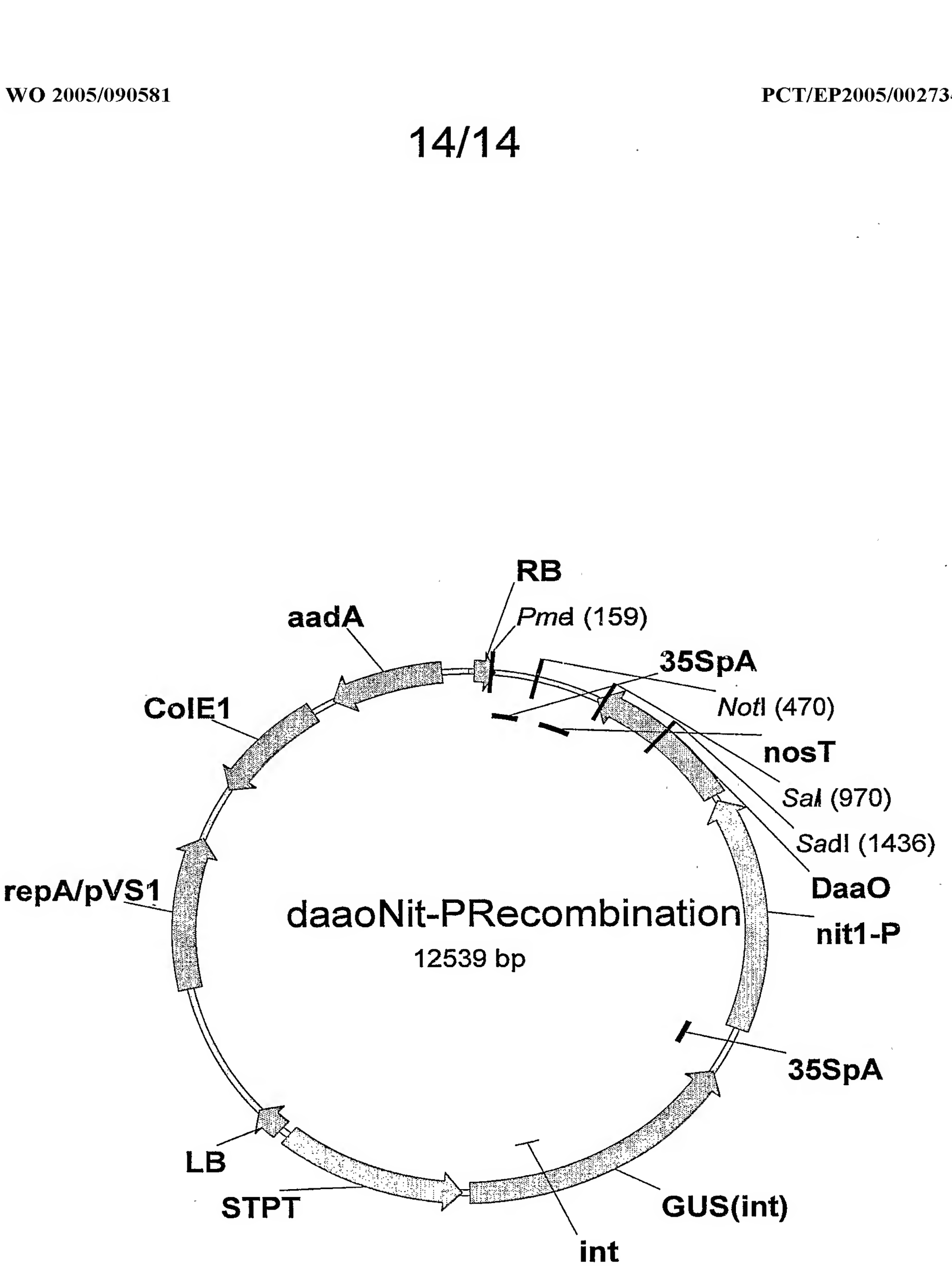

RB
aadA
PmeI (159)
35SpA
ColE1
NotI (470)
nosT
SalI (970)
SadI (1436)
repA/pVS1
daaoNit-PRecombination
12539 bp
DaaO
nit1-P
35SpA
LB
STPT
GUS(int)
int

Fig. 14